

Genus	Vol. 17(2): 323-340	Wrocław, 30 VI 2007
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Scirtidae of India and Sri Lanka. Part 1. The *chlorizans*-group of
Cyphon PAYKULL, 1799
 (Insecta: Coleoptera)

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ABSTRACT. Five new species of *Cyphon* PAYK. from India (*Cyphon kejvali* n. sp., *Cyphon maharashtraensis* n. sp., *Cyphon tamilensis* n. sp., *Cyphon luteoapicalis* n. sp., *Cyphon karnatakaensis* n. sp.), and one from Sri Lanka (*Cyphon pseudoatratus* n. sp.) are described and illustrated. Remarks on the *chlorizans*-group of *Cyphon* and a check-list of world species are provided.

Key words: entomology, taxonomy, Coleoptera, Scirtidae, *Cyphon*, new species, India, Sri Lanka.

INTRODUCTION

About 50 species of Scirtidae are known from India and about 20 from Sri Lanka. The Scirtidae inhabiting this region are diverse and represent 10 genera. The most speciose genera are *Scirtes* ILL., *Cyphon* PAYK., and *Hydrocyphon* REDT.

The Scirtidae of Sri Lanka were first investigated by Victor MOTSCHULSKY in the mid 19th century (MOTSCHULSKY 1858, 1863). George CHAMPION described numerous species belonging to genera *Ora* CLARK and *Scirtes* inhabiting both India and Sri Lanka (CHAMPION 1918). In the past 30 years several species of *Cyphon* were described from India by Bernhard KLAUSNITZER (1980a, 1980b), and six species of *Hydrocyphon* were described by Hiroyuki YOSHITOMI and Masataka SATÔ (2005).

The studies of Indian Scirtidae are still at a preliminary stage. Examination of materials from various collections have revealed numerous specimens representing many undescribed species. In the present paper six new species of *Cyphon* are described.

The present study is based on specimens collected by a Czech specialist in Anthicidae (Coleoptera), Zbyněk KEJVAL.

METHODS AND CONVENTIONS

Total length is measured from above and extends from the anterior edge of pronotum to the apex of elytra. Head length is measured from the anterior edge of clypeus to the anterior edge of pronotum. Elytra length is measured along the suture from the base of the scutellum to the apex. The shape of pronotum is described when observed in perpendicular view. The terminology of male genital structures follows NYHOLM (2000). Auto-Montage Essentials software was used to produce the figures.

The following abbreviations were used in the text: L – length; W – width; NHM – Naturhistorisches Museum Wien (Austria); RRC – Rafał RUTA private collection.

Holotypes are deposited in the collection of Department of Biodiversity and Evolutionary Taxonomy, Wrocław University, Wrocław, Poland.

SYSTEMATIC PART

The *chlorizans*-group of *Cyphon* (known also as *sinuosus*-group (YOSHITOMI 2002) or *reconditus*-group (KLAUSNITZER 2005)) is characterized by several male genital features, including: Y-shaped tegmen; elongated, symmetrical penis often with trigonium armed with denticles; sternite VIII reduced, often Y-shaped; sternite IX large, U- or V-shaped (common feature of Indian species) or reduced, Y-shaped (e.g. in Japanese species); tergite IX with long apodemes. On the base of morphology of sternite IX, three subgroups may be established: I – with reduced or absent sternite IX; II – with large sternite IX, III – with large, asymmetrical sternite IX.

Females are known only for a single species of this group – *Cyphon nigroflavus* RUTA. Morphology of its terminal abdominal segments shows many differences from that of *Cyphon* species (e.g. sternite VIII with fused apodemes, see RUTA 2004).

The majority of species classified within the *chlorizans*-group have minute bodies (1.4-2.2(2.6) mm); the coloration is usually dark brown or bicolor (blackish and yellow; species with contrasting coloration of body are more numerous within the second subgroup). Other morphological characters differentiating the *chlorizans*-group from *Cyphon* s. str. (with *Cyphon coarctatus* PAYKULL, 1799 treated as a type species here) are: mandibles symmetrical; molar region of mandibles with hairs (reduced and devoid of hairs in *Cyphon* s. str.); mesal portion of mandibles without or with minute denticle; maxillary and labial terminal palpomeres fusiform, with broadened, globular proximal half, and narrow, tempered apex; metaventral discrimen complete or almost complete (in *Cyphon* s. str. only posterior half present) metaventral process relatively wide in numerous species; in the only completely dissected species (*Cyphon luteoapicalis*) metendosternite with anterior processes reduced.

Although monophyly of at least the second subgroup of the *chlorizans* species group seems to be well supported by morphological features, and the group deserves a generic status, describing a new genus seems to be premature. Studies on species-

groups of Palaearctic and Oriental *Cyphon* are presently being carried out by Bernhard KLAUSNITZER (Dresden, Germany) (KLAUSNITZER 2005).

CHECK-LIST OF SPECIES CLASSIFIED WITHIN A *CYPHON CHLORIZANS*-GROUP

I. Species with reduced (or absent) sternite IX:

<i>Cyphon amami</i> YOSHITOMI, 2005	Japan
<i>Cyphon honshuanus</i> YOSHITOMI, 2005	Japan
<i>Cyphon jiangxiensis</i> YOSHITOMI, 2002	China: Jiangxi
<i>Cyphon kejvali</i> n. sp.	India
<i>Cyphon mendosus</i> KLAUSNITZER, 1980	Nepal
<i>Cyphon minutulus</i> KLAUSNITZER, 1980	India
<i>Cyphon okinawanus</i> YOSHITOMI, 2005	Japan
<i>Cyphon sinuosus</i> SASAGAWA, 1985	Japan
<i>Cyphon spinifer</i> YOSHITOMI, 2005	Japan
<i>Cyphon yayeyamanus</i> YOSHITOMI, 2005	Japan

II. Species with large sternite IX (usually U-shaped):

<i>Cyphon chlorizans</i> KLAUSNITZER, 1973	Philipines: Tawi Tawi
<i>Cyphon formosus</i> KLAUSNITZER, 1980	India
<i>Cyphon hofferi</i> KLAUSNITZER, 1973	West Sumbawa
<i>Cyphon jaloszynskii</i> RUTA, 2004	Malaysia
<i>Cyphon karnatakaensis</i> n. sp.	India
<i>Cyphon luteoapicalis</i> n. sp.	India
<i>Cyphon maharashtraensis</i> n. sp.	India
<i>Cyphon nigroflavus</i> RUTA, 2004	Laos
<i>Cyphon peregrinus</i> KLAUSNITZER, 1980	Vietnam
<i>Cyphon pseudoatratus</i> n. sp.	Sri Lanka
<i>Cyphon reconditus</i> KLAUSNITZER, 1980	Vietnam
<i>Cyphon remotus</i> KLAUSNITZER, 1980	India
<i>Cyphon tamilensis</i> n. sp.	India
<i>Cyphon voluptificus</i> KLAUSNITZER, 1980	India

III. Species with large, asymmetrical sternite IX

<i>Cyphon paramicans</i> KLAUSNITZER, 1979	New Guinea
<i>Cyphon micans</i> KLAUSNITZER, 1973	New Guinea

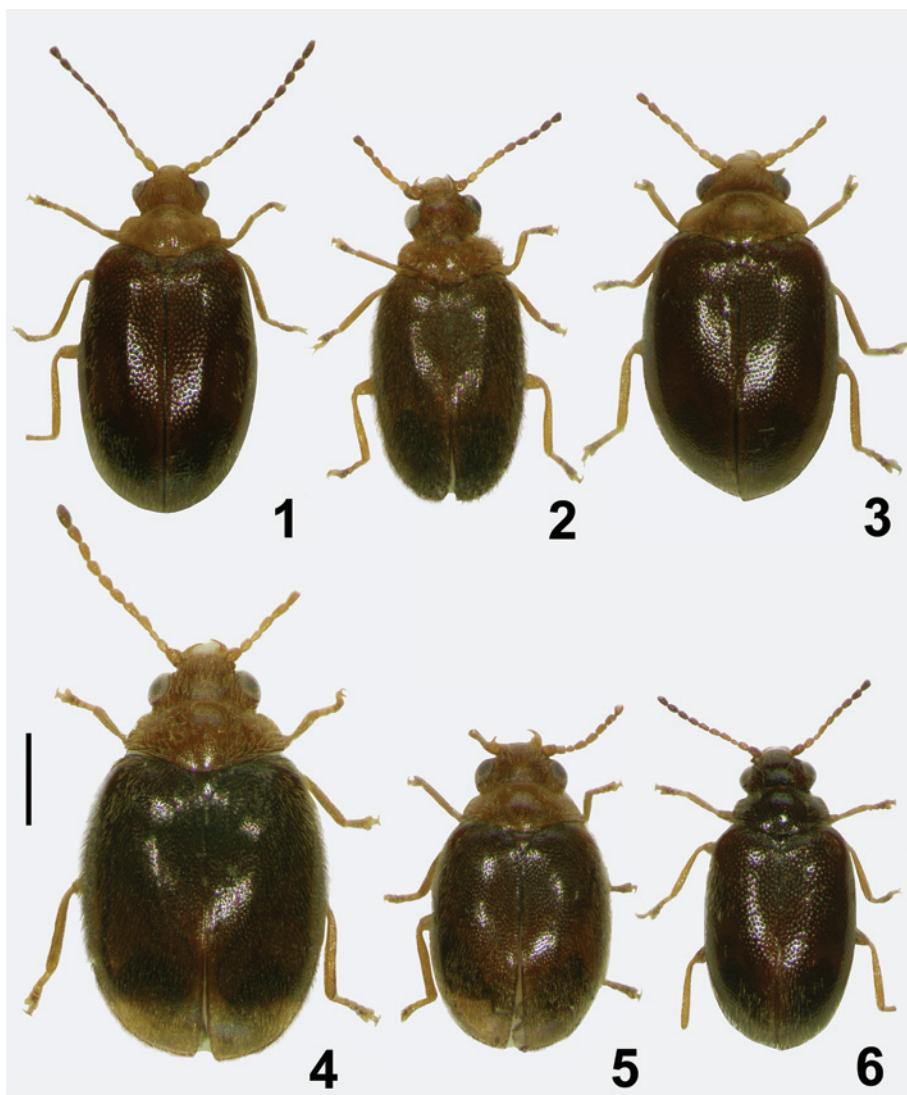
DESCRIPTIONS OF NEW SPECIES

Cyphon kejvali n. sp.
(Figs 1, 7-13)

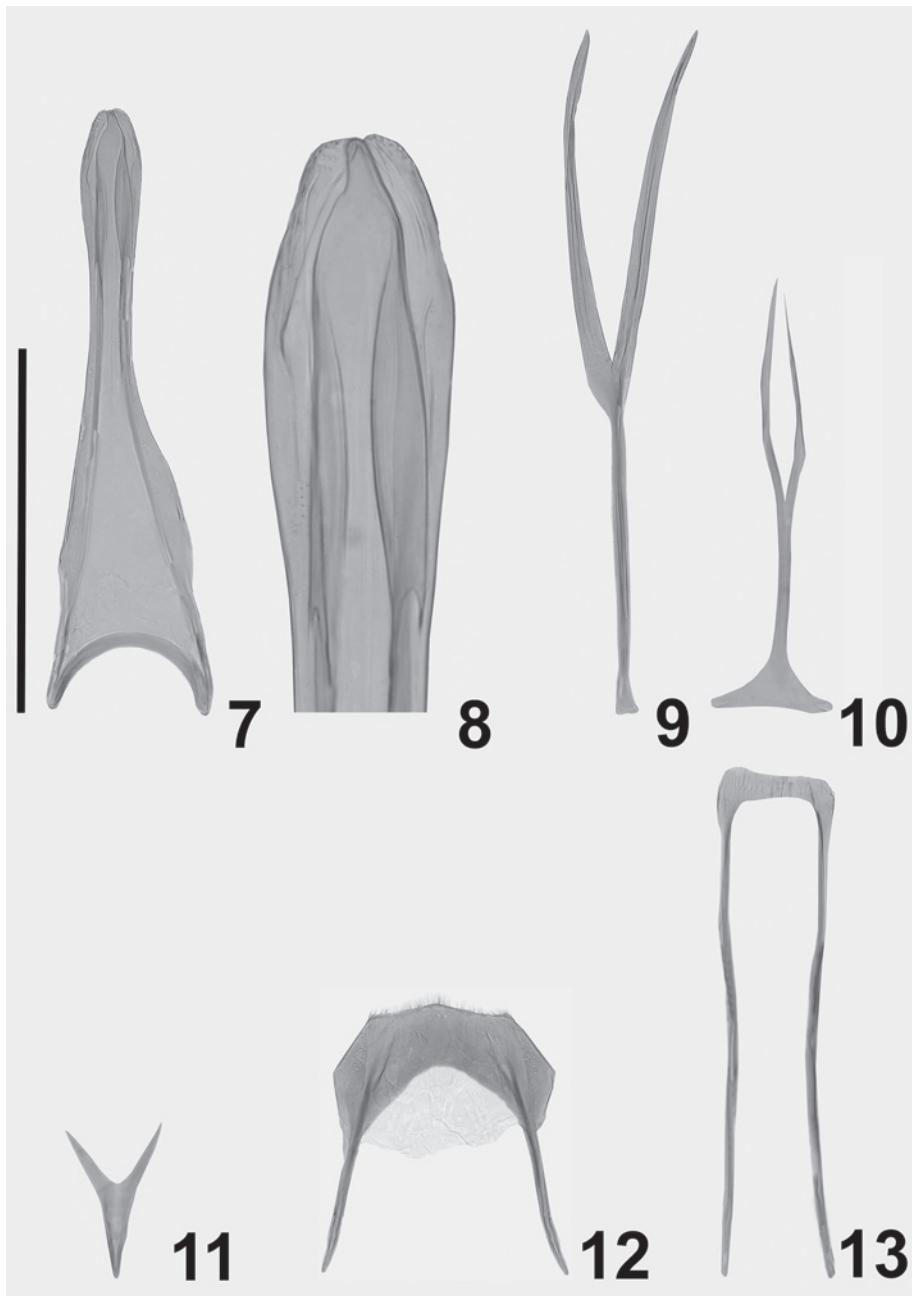
TYPE MATERIAL

Holotype (male): S India, Kerala, Palani hills, 30 km E of Munnar, TOP STATION, 10°08' N, 77°15' E, 1900 m, 22-26 V 1994, leg. Z. KEJVAL.

Paratypes (males): same data as holotype, 2 exx. (coll. NHM and RRC).



1-6. Habitus. 1 – *Cyphon kejvali* n. sp.; 2 – *Cyphon maharashtraensis* n. sp.; 3 – *Cyphon tamilensis* n. sp.; 4 – *Cyphon luteoapicalis* n. sp.; 5 – *Cyphon karnatakaensis* n. sp.; 6 – *Cyphon pseudoatratus* n. sp. Scale bar = 0.5 mm



7-13. Male genitalia of *Cyphon kejvali* n. sp. 7 – penis; 8 – apex of penis; 9 – tegmen; 10 – sternite IX; 11 – sternite VIII; 12 – tergite VIII; 13 – tergite IX. Scale bar = 0.5 mm

DIAGNOSIS

Cyphon kejvali n. sp. can be distinguished from allied species on the base of the peculiar form of body with a small pronotum; certain identification is possible only on the basis of male genital characters.

DESCRIPTION

Male. Body oblong oval, slightly depressed, covered with whitish suberect hairs. Elytra and scutellum dark brown, pronotum yellow, head light brown. Underside of head, prosternum and mesoventrite yellow, metaventrite and abdomen dark brown. Legs and mouthparts yellow, antenna yellow, darkened apically. Total length 1.9 mm, greatest pronotal width 0.63 mm, greatest elytral width 1.1 mm, greatest depth of body 0.68 mm. Body 1.73 times as long as broad.

The greatest width of head 0.48 mm, head 0.77 times as long as broad, 1.41 times wider than width of interocular space, with distinct granulate punctation and moderately protuberant eyes. Antenna filiform, moderately long – reaching 1/3 of elytra, length ratio of antennomeres 1.67 : 1.16 : 1.0 : 1.67 : 1.5 : 1.27 : 1.33 : 1.33 : 1.33 : 2.0; length/width ratio of antennomeres 1.43, 1.17, 1.5, 2.0, 1.8, 1.33, 1.33, 1.33, 1.33, 2.0. Anterior clypeal margin almost straight, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterior angles.

Pronotum small, 1.9 times as broad as long, widest at middle of its length. Disc of pronotum with fine granulate punctation, similar to that on head. Posterior margin of pronotum bisinuate; anterior angles slightly produced. Lateral margins slightly rounded.

Scutellum subtriangular, as long as wide, finely punctate. Base of elytra evenly wider than base of pronotum. Elytra with three longitudinal ridges, 1.45 times as long as broad and 4.8 times as long as pronotum. Sides subparallel, rounded and regularly converging to apex in posterior 1/3. Adsutural portion of elytra slightly elevated in posterior half of elytra, small adsutural depressions present in anterior half of elytra. Humeri clearly evident. Punctuation dense and strong, punctures deep, separated by 0.5-1 diameter. Epipleura brown, reduced in apical 1/4 of elytra. Hind wings fully developed.

Prosternal process twice as long as wide, tear-shaped, with rounded apex. Meso-coxae separated by a relatively narrow, subrectangular process (about twice as long as wide) with emarginated apex, metaventral discrimen almost complete. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 2.0 : 2.0 : 2.0 : 2.3. Last ventrite regularly rounded.

Male genitalia. Penis (L=0.83 mm, W=0.17 mm) symmetrical, trigonium with hooked apex. Tegmen (L=0.93 mm, W=0.12 mm) Y-shaped, with broadened basal part. Sternite VIII (L=0.11 mm, W=0.06 mm) minute, v-shaped. Sternite IX (L=0.3 mm, W=0.1 mm) small, Y-shaped. Tergite VIII (L=0.36 mm, W=0.32 mm) subtrapezoidal, with a row of short setae on apical margin. Tergite IX (L=0.7 mm, W=0.14 mm) with very long apodemes.

NAME DERIVATION

Named after Zbyněk KEJVAL (Domažlice, Czech Republic), specialist in Anthicidae (Coleoptera), and an excellent collector of beetles.

Cyphon maharashtraensis n. sp.

(Figs 2, 14-19)

TYPE MATERIAL

Holotype (male): India, Maharashtra, 30 km W Pune, valley E of Mulshi, 18°29' N, 73°30' E, 700 m, 13-16 VI 2006, leg. Z. KEJVAL.

Paratype (male): same data as holotype, RRC.

DIAGNOSIS

Cyphon maharashtraensis n. sp. can be easily distinguished from allied species on the basis of male genital characters.

DESCRIPTION

Male. Body oblong oval, depressed, covered with brownish (on elytra) and yellowish (on remaining parts of dorsum) suberect hairs. Elytra brownish, with somewhat lighter base, scutellum light brown, pronotum and head yellow. Underside of head and prosternum yellow, mesoventrite light brown, metaventrite and abdomen brownish. Legs, mouthparts, and antenna yellow, with 6 apical antennomeres and maxillary palpi darkened, brownish. Total length 1.6 mm, greatest pronotal width 0.63 mm, greatest elytral width 0.93 mm, greatest depth of body 0.63 mm. Body 1.75 times as long as broad.

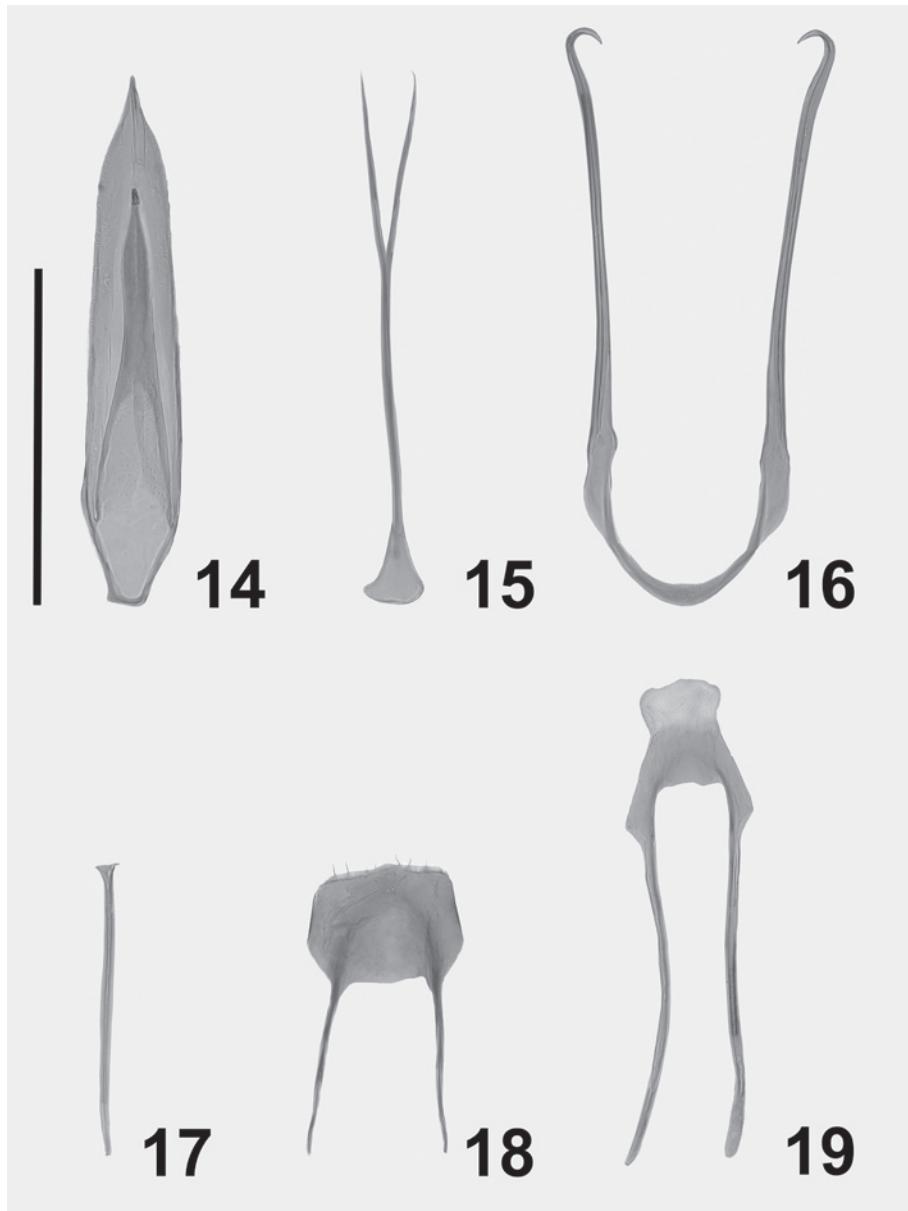
The greatest width of head 0.46 mm, head 0.72 times as long as broad, 1.53 times wider than width of interocular space, with fine punctuation and moderately protuberant eyes. Antennae filiform, moderately long – reaching basal 1/3 of elytra, length ratio of antennomeres 1.6 : 1.2 : 1.0 : 1.6 : 1.2 : 1.2 : 1.2 : 1.2 : 1.2 : 1.6; length/width ratio of antennomeres 1.33, 1.33, 1.67, 2.0, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.6. Anterior clypeal margin slightly emarginated, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterior angles.

Pronotum 1.97 times as broad as long, widest near posterior angles. Disc of pronotum with punctuation similar to that on head. Posterior margin of pronotum bisinuate; anterior angles not produced. Lateral margins slightly converging anteriorly.

Scutellum subtriangular, as long as wide, almost impunctate. Base of elytra wider than base of pronotum. Elytra with three indistinct longitudinal ridges, 1.43 times as long as broad and 4.25 times as long as pronotum. Sides subparallel, rounded and regularly converging to apex in posterior 1/3. A subtle adsutural stria is present in anterior half. Humeri clearly evident. Punctuation much stronger than on pronotum, punctures shallow, separated by 1-1.5 diameters. Epipleura brownish, almost complete, reduced just before apex. Hind wings fully developed.

Prosternal process slightly longer than wide, tear-shaped, with rounded apex. Mesocoxae separated by a subrectangular process which only slightly dilates posteriorly

(about twice as long as wide), metaventral discrimen complete. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 1.7 : 1.7 : 1.7 : 2.2. Last ventrite regularly rounded.



14-19. Male genitalia of *Cyphon maharashtraensis* n. sp. 14 – penis; 15 – tegmen; 16 – sternite IX; 17 – sternite VIII; 18 – tergite VIII; 19 – tergite IX. Scale bar = 0.5 mm

Male genitalia. Penis (L=0.77 mm, W=0.14 mm) with parallel sides and pointed apex; trigonium narrow, with minute denticles at apex. Tegmen (L=0.75 mm, W=0.08 mm) elongated, Y-shaped. Sternite VIII (L=0.45 mm, W=0.05 mm) reduced, rod-like. Sternite IX (L=0.87 mm, W=0.4 mm) large, U-shaped, apodemes with hooked apices. Tergite VIII (L=0.42 mm, W=0.22 mm) subtrapezoidal, with a row of short setae and few longer setae on apical margin. Tergite IX (L=0.67 mm, W=0.2 mm) with long apodemes.

NAME DERIVATION

After the *terra typica* of the species, the Maharashtra state.

Cyphon tamilensis n. sp.

(Figs 3, 20-27)

TYPE MATERIAL

Holotype (male): S India, Tamil Nadu state, Nilgiri hills, 15 km SE of Kotagiri, Kunchappanai, 11°22' N, 76°56' E, 900 m, 17-28 IX 1993, leg. BOUKAL & KEJVAL.

DIAGNOSIS

Cyphon tamilensis n. sp. can be easily distinguished from allied species on the basis of male genital characters and morphology of last abdominal ventrite.

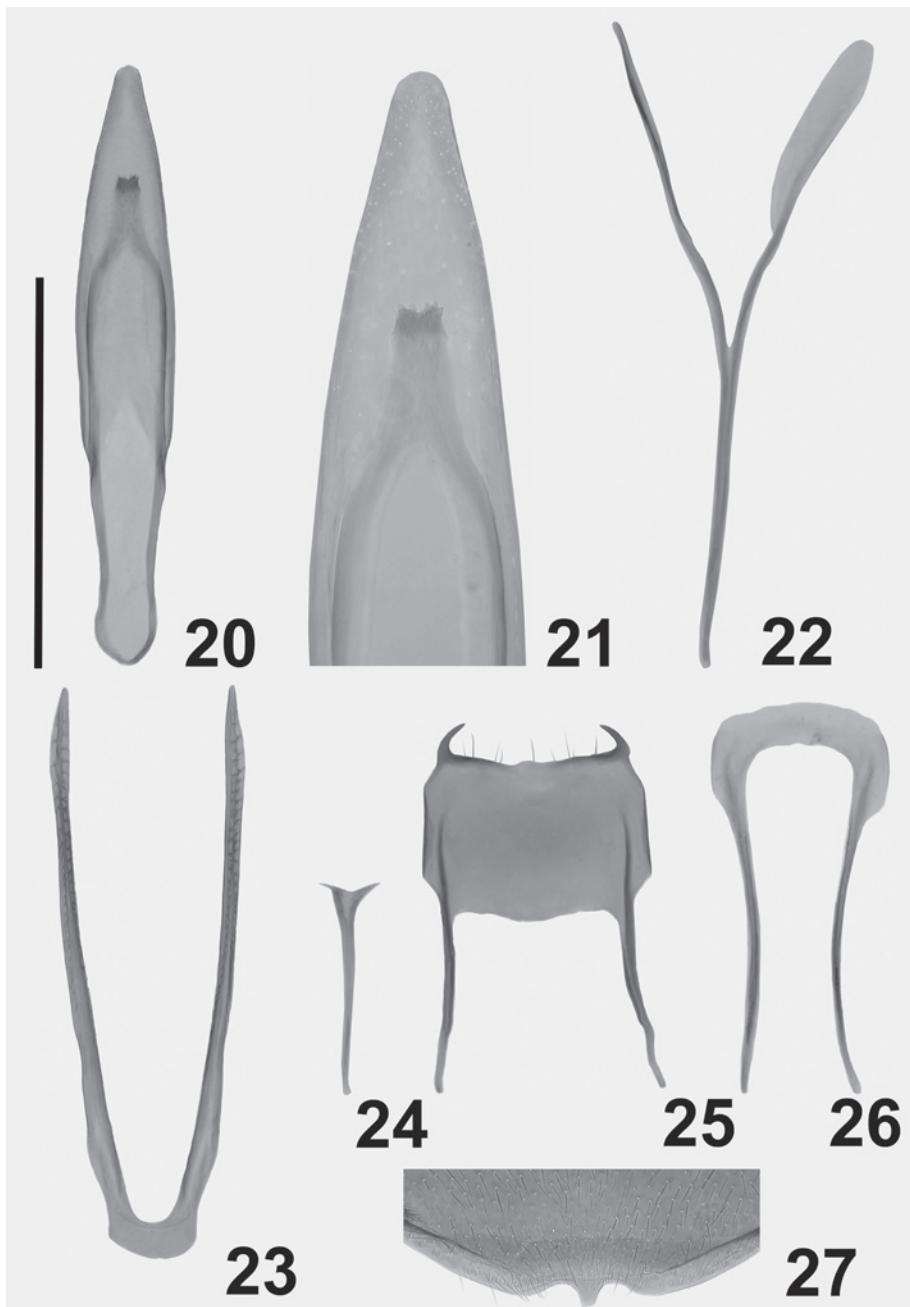
DESCRIPTION

Male. Body oval, slightly depressed, covered with brownish (on elytra) and yellowish (on remaining parts of the body) suberect hairs. Elytra and scutellum brown, pronotum and head yellow. Underside of head and prosternum yellow, mesoventrite, metaventrite, and abdomen brown. Legs, mouthparts, and antenna yellow. Total length 1.9 mm, greatest pronotal width 0.77 mm, greatest elytral width 1.17 mm, greatest depth of body 0.65 mm. Body 1.62 times as long as broad.

The greatest width of head 0.56 mm, head 0.57 times as long as broad, 1.47 times wider than width of interocular space, with fine punctuation and protuberant eyes. Antennae filiform, moderately long – reaching 1/3 of elytra, length ratio of antennomeres 1.67 : 1.17 : 1.0 : 1.5 : 1.33 : 1.33 : 1.33 : 1.33; length/width ratio of antennomeres 1.43, 1.4, 1.7, 2.0, 1.6, 1.6, 1.6, 1.6. The holotype lacks three apical antennomeres. Anterior clypeal margin slightly emarginated, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterior angles.

Pronotum 2.0 times as broad as long, widest at posterior angles. Pronotum with punctuation similar to that on head. Posterior margin of pronotum bisinuate; anterior angles not produced. Lateral margins slightly converging anteriorly.

Scutellum subtriangular, as long as wide, punctate like elytra. Base of elytra slightly wider than base of pronotum. Elytra with two indistinct longitudinal ridges, 1.37 times as long as broad and 4.2 times as long as pronotum. Sides rounded, regularly converging to apex. Anterior half of elytra with adsutural stria. Humeri clearly evident. Punctuation much stronger than on pronotum, relatively deep and dense, separated by



20-27. Male genitalia of *Cyphon tamilensis* n. sp. 20 – penis; 21 – apex of penis; 22 – tegmen; 23 – sternite IX; 24 – sternite VIII; 25 – tergite VIII; 26 – tergite IX. 27. Apex of last abdominal ventrite of *Cyphon tamilensis* n. sp. Scale bar = 0.5 mm (with exception of 27)

0.5-1 diameters. Epipleura brownish, regularly narrowing, reduced in apical 1/3 of elytra. Hind wings fully developed.

Prosternal process slightly longer than wide, tear-shaped, with rounded apex. Mesocoxae separated by a subrectangular process which only slightly dilates posteriorly (about three times as long as its greatest width), metaventral discrimin complete. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 1.6 : 1.6 : 1.6 : 1.9. Last ventrite emarginated, with a short process protruding from the middle of the emargination.

Male genitalia. Penis (L=0.78 mm, W=0.13 mm) with sides converging posteriorly and rounded apex; trigonium with apical process armed with short denticles. Tegmen (L=0.83 mm, W=0.34 mm) Y-shaped. Sternite VIII (L=0.28 mm, W=0.05 mm) small, Y-shaped. Sternite IX (L=0.72 mm, W=0.24 mm) large, U-shaped, with characteristic microsculpture on apices of apodemes. Tergite VIII (L=0.48 mm, W=0.30 mm) subtrapezoidal, with very characteristic hooks on posterolateral angles and several relatively long setae on apical margin. Tergite IX (L=0.5 mm, W=0.25 mm) with long apodemes.

NAME DERIVATION

Named after Tamil Nadu state, where the *locus typicus* is situated.

Cyphon luteoapicalis n. sp.

(Figs 4, 28-34)

TYPE MATERIAL

Holotype (male): India, Maharashtra, 50 km W of Karad, Koyna, SW of Dam, 17°23' N, 73°44' E, 600 m, 11 VI 2006, Z. KEJVAL.

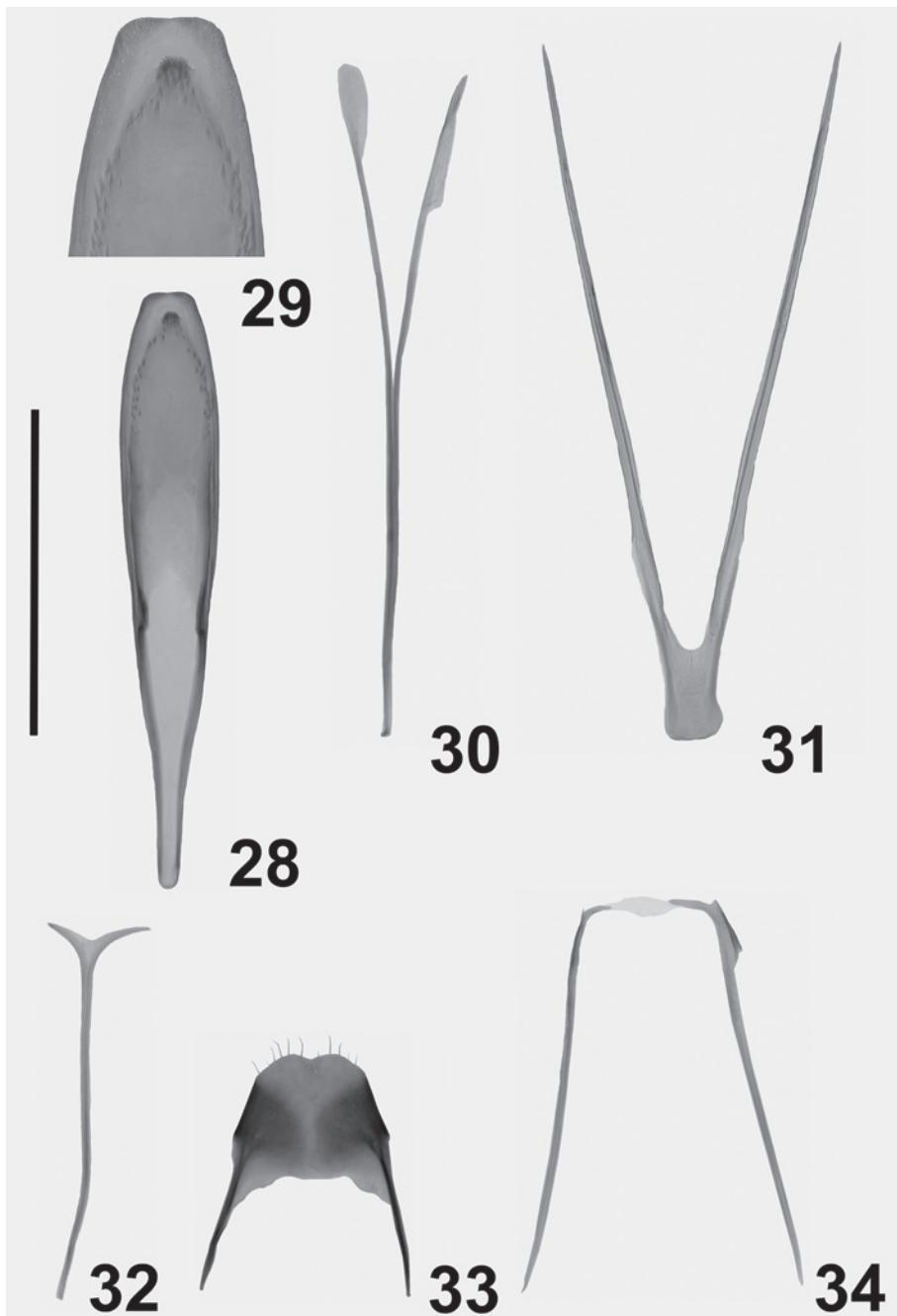
Paratype (male): India, Maharashtra, Kolhapur distr., Ajra env., near river, 16°07' N, 74°12' E, ca 640 m, 23 V 2006, Z. KEJVAL, RRC.

DIAGNOSIS

Cyphon luteoapicalis n. sp. differs from related species in having contrasting coloration of the body and bicolored elytra; certain identification is possible only on the basis of male genital characters.

DESCRIPTION

Male. Body oval, moderately convex, covered with yellowish (on apical portion of elytra), brownish (on elytra, with the exception of basal and apical areas) and whitish (on head, pronotum, and basal part of elytra) suberect hairs. Elytra dark brown, with apical 1/5-1/4 yellow and brown spots on humeri, scutellum brown, pronotum and head yellow. Underside of head and prosternum yellow, mesoventrite light brown, metaventrite and abdomen brownish black. Legs and mouthparts yellow, antennae yellow with two apical antennomeres darkened, brownish. Total length 2.1-2.2 mm, greatest pronotal width 0.9-1.0 mm, greatest elytral width 1.4-1.45 mm, greatest depth of body 0.8-0.9 mm. Body 1.47-1.54 times as long as broad.



28-34. Male genitalia of *Cyphon luteoapicalis* n. sp. 28 – penis; 29 – apex of penis; 30 – tegmen; 31 – sternite IX; 32 – sternite VIII; 33 – tergite VIII; 34 – tergite IX. Scale bar = 0.5 mm

The greatest width of head 0.64-0.66 mm, head 0.55-0.6 times as long as broad, 1.47-1.56 times wider than width of interocular space, with distinct, granulate punctuation and moderately protuberant eyes. Antennae filiform, moderately long – reaching 1/3 of elytra, length ratio of antennomeres 1.67 : 1.17 : 1.0 : 1.67 : 1.67 : 1.5 : 1.5 : 1.5 : 1.5 : 1.5 : 2.17; length/width ratio of antennomeres 1.25, 1.17, 1.5, 2.0, 2.0, 1.8, 1.5, 1.5, 1.5, 1.5, 2.17. Anterior clypeal margin slightly emarginated, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterolateral angles.

Pronotum 2.0-2.08 times as broad as long, widest at posterior angles. Disc of pronotum with punctuation similar to that on head, sides of pronotum with dense granulate punctuation. Posterior margin of pronotum bisinuate; anterior angles slightly produced. Lateral margins slightly converging anteriorly.

Scutellum subtriangular, as long as wide, almost impunctate. Base of elytra slightly wider than base of pronotum. Elytra with two indistinct longitudinal ridges, 1.24-1.26 times as long as broad and 3.81-3.84 times as long as pronotum. Sides rounded, regularly converging to apex. Adsutural portion of elytra is slightly elevated in anterior half of elytra. Humeri clearly evident. Punctuation distinct, punctures small and shallow, separated by 1-2 diameter. Epipleura blackish, strongly reduced behind meteventrite, reduced in apical 1/3 of elytra. Hind wings fully developed.

Prosternal process slightly longer than wide, tear-shaped, with rounded apex. Mesocoxae separated by a relatively wide, subrectangular process which dilates posteriorly (about twice as long as its greatest width), metaventral discrimin present at apical 4/5. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 1.7 : 1.7 : 1.7 : 1.7. Last ventrite regularly rounded.

Male genitalia. Penis (L=0.9 mm, W=0.15 mm) with blunt apex; outer margin of trigonium armed with several denticles. Tegmen (L=1.03 mm, W=0.2 mm) Y-shaped. Sternite VIII (L=0.6 mm, W=0.15 mm) reduced, Y-shaped. Sternite IX (L=1.06 mm, W=0.45 mm) large, V-shaped. Tergite VIII (L=0.38 mm, W=0.32 mm) subtrapezoidal, with several setae on apical margin. Tergite IX (L=0.64 mm, W=0.43 mm) with long apodemes.

NAME DERIVATION

The species' name refers to contrasting coloration of elytra – almost black with yellow apices.

Cyphon karnatakaensis n. sp.

(Figs 5, 35-41)

TYPE MATERIAL

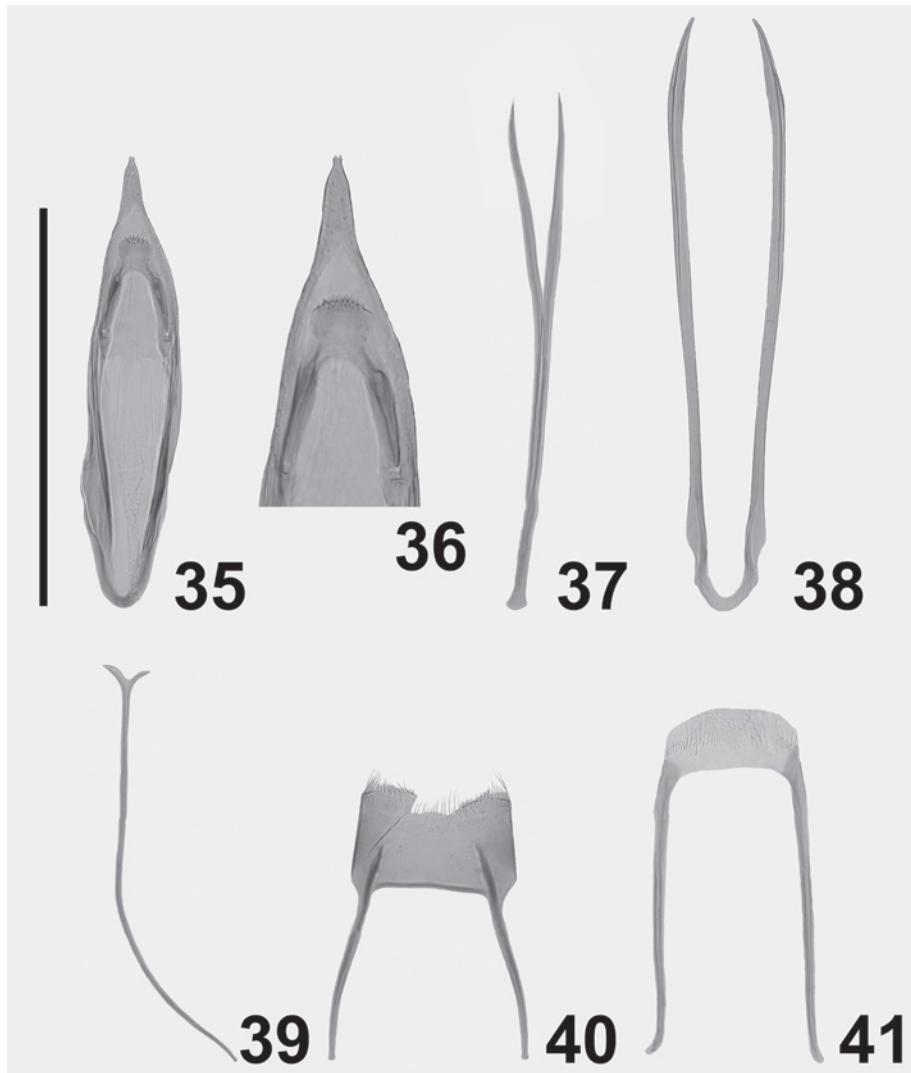
Holotype (male): S India, Karnataka state, Coorg distr., NE of Virajpet, 75°50' E, 12°13' N, ca 500 m, 4-8 VI 1999, leg. Z. KEJVAL & M. TRÝZNA.

DIAGNOSIS

Cyphon karnatakaensis n. sp. is externally similar to *C. luteoapicalis*, although a bit smaller; it can be easily distinguished from allied species on the basis of male genital characters.

DESCRIPTION

Male. Body oval, moderately convex, covered with yellowish and brownish suberect hairs. Elytra brown, with lightened posterior 1/4, and light brown spots on humeri, scutellum light brown, pronotum and head yellow. Underside of head and prosternum yellow, mesoventrite, metaventrite, and abdomen brownish. Legs, mouthparts, and antennae yellow. Total length 1.65 mm, greatest pronotal width 0.75 mm, greatest elytral width 1.1 mm, greatest depth of body 0.7 mm. Body 1.5 times as long as broad.



35-41. Male genitalia of *Cyphon karnatakaensis* n. sp. 35 – penis; 36 – apex of penis; 37 – tegmen; 38 – sternite IX; 39 – sternite VIII; 40 – tergite VIII; 41 – tergite IX. Scale bar = 0.5 mm

The greatest width of head 0.58 mm, head 0.52 times as long as broad, 1.45 times wider than width of interocular space, with distinct granulate punctuation and moderately protuberant eyes. Antennae filiform, moderately long – reaching basal 1/3 of elytra, length ratio of antennomeres 1.75 : 1.25 : 1.0 : 1.25 : 1.25 : 1.25 : 1.25 : 1.25; length/width ratio of antennomeres 1.4, 1.43, 1.33, 1.43, 1.43, 1.43, 1.43, 1.43. The holotype lacks three apical antennomeres. Anterior clypeal margin slightly emarginated, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterior angles.

Pronotum 2.3 times as broad as long, widest at posterior angles. Disc of pronotum with subtle punctuation, sides of pronotum with granulate punctuation. Posterior margin of pronotum bisinuate; anterior angles slightly produced. Lateral margins slightly converging anteriorly.

Scutellum subtriangular, as long as wide, almost impunctate. Base of elytra slightly wider than base of pronotum. Elytra without distinct longitudinal ridges, 1.23 times as long as wide and 4.1 times as long as pronotum. Sides rounded, regularly converging to apex. Humeri clearly evident. Punctuation stronger than on pronotum, punctures separated by 1-1.5 diameter, punctures shallow. Epipleura brownish, regularly narrowing, reduced in apical 1/3 of elytra. Hind wings fully developed.

Prosternal process slightly longer than wide, tear-shaped, with rounded apex. Mesocoxae separated by a relatively wide, subrectangular process which strongly dilates posteriorly (about twice as long as its greatest width), metaventral discriminem complete. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 1.8 : 1.8 : 1.8 : 2.0. Last ventrite regularly rounded.

Male genitalia. Penis (L=0.57 mm, W=0.13 mm) with apex tempered and armed with several small denticles; trigonium with apex blunt and armed with several minute denticles. Tegmen (L=0.73 mm, W=0.08 mm) Y-shaped. Sternite VIII (L=0.6 mm, W=0.07 mm) elongated, Y-shaped. Sternite IX (L=0.75 mm, W=0.15 mm) large, narrow, U-shaped. Tergite VIII (L=0.35 mm, W=0.27 mm) subrectangular, with a row of moderately long setae on apical margin. Tergite IX (L=0.45 mm, W=0.22 mm) with moderately elongated apodemes.

NAME DERIVATION

Named after Karnataka state, where the *locus typicus* is situated.

Cyphon pseudoatratus n. sp.

(Figs 6, 42-48)

TYPE MATERIAL

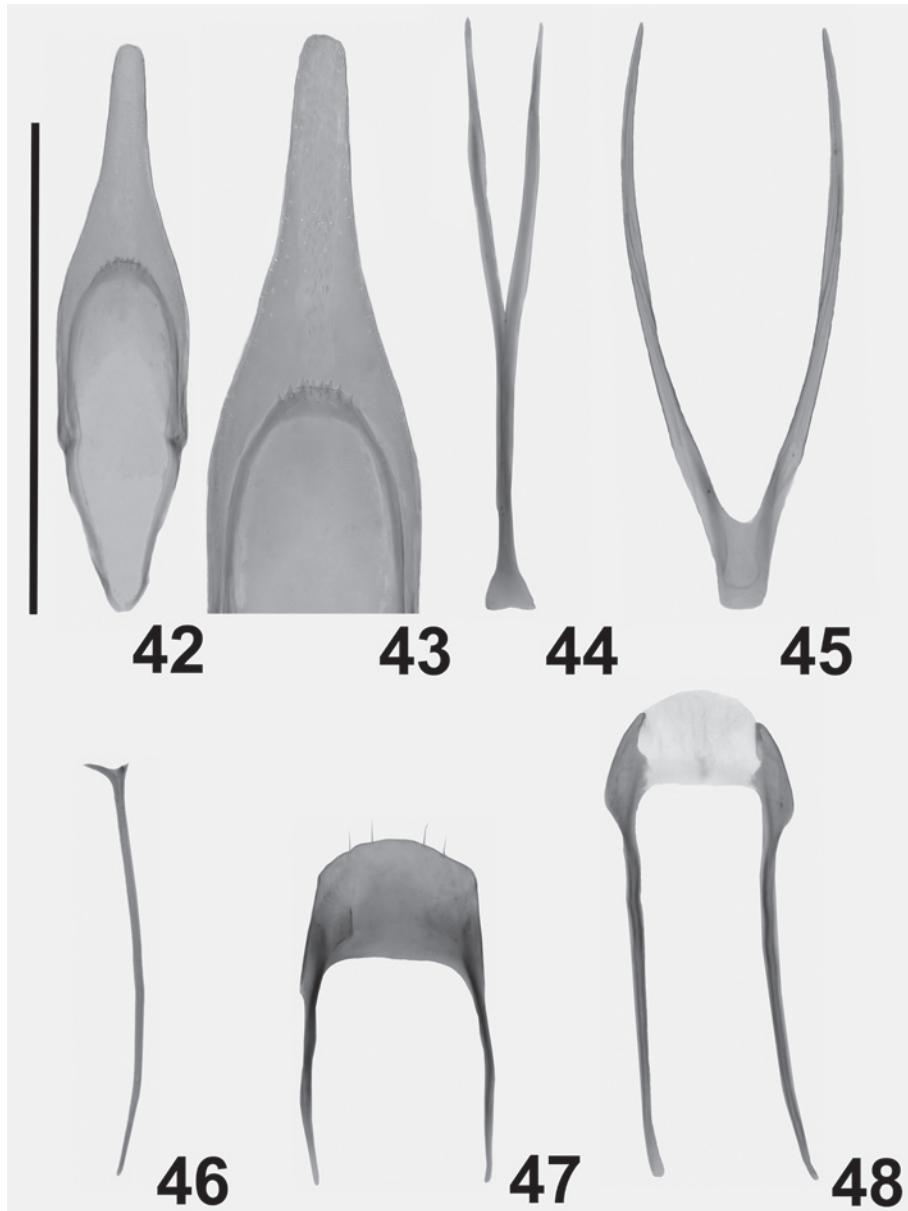
Holotype (male): Sri Lanka c., Idalgashinna, 25 km SW of Badulla, alt. 1400 m, 6-9 IV 1994, leg. Z. KEJVAL.

DIAGNOSIS

Externally similar to *Cyphon atratus* (MOTSCHULSKY, 1863), distinguishable on the basis of male genital characters.

DESCRIPTION

Male. Body oblong oval, slightly depressed, covered with whitish suberect hairs. Elytra brown, scutellum, pronotum, and head, with the exception of frons which is



42-48. Male genitalia of *Cyphon pseudoatratus* n. sp. 42 – penis; 43 – apex of penis; 44 – tegmen; 45 – sternite IX; 46 – sternite VIII; 47 – tergite VIII; 48 – tergite IX. Scale bar = 0.5 mm

slightly lighter, dark brown. Ventral side dark brown. Legs, antennae and mouthparts testaceous, with femora, apical five antennomeres, and maxillary palpi darkened, brownish. Total length 1.6 mm, greatest pronotal width 0.58 mm, greatest elytral width 0.95 mm, greatest depth of body 0.55 mm. Body 1.68 times as long as broad.

The greatest width of head 0.47 mm, Head 0.7 times as long as broad, 1.57 times wider than width of interocular space, with very fine granulate punctuation and moderately protuberant eyes. Antennae filiform, moderately long, reaching humeral region of elytra, length ratio of antennomeres 2.5 : 1.75 : 1.0 : 2.0 : 1.75 : 1.75 : 1.75 : 1.75 : 1.75; length/width ratio of antennomeres 1.67, 1.4, 1.33, 2.0, 1.75, 1.75, 1.75, 1.75, 1.75. The holotype lacks the apical antennomere. Anterior clypeal margin very slightly emarginated, anterolateral angles somewhat explanate. Labrum subrectangular, with rounded anterior angles.

Pronotum 1.93 times as broad as long, widest at posterior angles. Disc of pronotum with punctuation similar to that on head. Posterior margin of pronotum bisinuate; anterior angles slightly produced. Lateral margins slightly converging anteriorly.

Scutellum subtriangular, as long as wide, almost impunctate. Base of elytra wider than base of pronotum. Elytra without distinct longitudinal ridges, 1.37 times as long as broad and 4.33 times as long as pronotum. Sides subparallel, rounded and regularly converging to apex in posterior 1/3. Humeri clearly evident. Punctuation strong, much stronger than on pronotum, distance between punctures 0.5-1.0 diameters. Epipleura brownish, reduced in apical 1/3 of elytra. Hind wings fully developed.

Prosternal process slightly longer than wide, tear-shaped, with rounded apex. Mesocoxae separated by a relatively wide, subrectangular process which dilates posteriorly (about twice as long as wide), metaventral discrimin complete. Metaventral process reduced, subtriangular. Ratio of ventrites' lengths: 1.0 : 1.9 : 1.9 : 1.9 : 2.2. Last ventrite regularly rounded.

Male genitalia. Penis (L=0.58 mm, W=0.14 mm) with elongated and narrow apical part; trigonium regularly rounded and bearing minute denticles on apex. Tegmen (L=0.60 mm, W=0.08 mm) Y-shaped. Sternite VIII (L=0.43 mm, W=0.05 mm) elongated and narrow, Y-shaped. Sternite IX (L=0.60 mm, W=0.23 mm) large, U-shaped. Tergite VIII (L=0.35 mm, W=0.2 mm) subtrapezoidal, with several setae on apical margin. Tergite IX (L=0.5 mm, W=0.2 mm) with long apodemes.

NAME DERIVATION

Name refers to the external similarity to *Cyphon atratus* (MOTSCHULSKY, 1863), also described from Sri Lanka.

ACKNOWLEDGEMENTS

I am greatly indebted to Zbyněk KEJVAL for allowing me to study his interesting material. My studies on Scirtidae were supported by Synthesys-grants (FR-TAF-890, BE-TAF-1969, AT-TAF-2276). Special thanks goes to Christopher MAJKA (Nova Scotia Museum of Natural History, Halifax, Canada) for linguistic assistance.

REFERENCES

CHAMPION, G. C., 1918. New and little-known saltatorial Dascillidae. Ent. month. Mag., **54**: 93-103, 139-149, 188-198, 219-225, 256-273.

KLAUSNITZER, B., 1980a. Südostasiatische neue Arten aus der Gattung *Cyphon* PAYKULL, 1799. Reichenbachia **18**, 31: 219-226.

—, 1980b. Zur Kenntnis der Helodidae des Himalaja-Gebietes (Col.). Entomol. Basil., **5**: 195-214.

—, 2005. Zur Kenntnis der Scirtidae der Philippinen (Coleoptera). 1. Teil: Gattung *Cyphon* PAYKULL, 1799. Entomologica Basiliensia et Collectionis Frey, **27**: 15-25.

MOTSCHULSKY, V., 1858. Insectes des Indes orientales. Etud. ent., **7**: 62-63.

—, 1863. Essai d'un Catalogue des Insectes de l'ile Ceylon. Bull. Soc. Imp. Nat. Moscou, **36**: 483-487.

RUTA, R., 2004. Five new species of Oriental Scirtidae (Coleoptera: Scirtoidea). Genus, Wrocław, **15**, 3: 363-379.

WATERHOUSE, Ch. O., 1880. Description of new Coleoptera belonging to the families Psephenidae and Cyphonidae. Cist. Ent., **2**: 563-573.

YOSHITOMI, H., 2002. Two New Species of the Genus *Cyphon* (Coleoptera, Scirtidae) from China. Jpn. J. syst. Ent., **8**, 1: 41-44.

YOSHITOMI, H., SATŌ, M., 2005. Scirtidae of the Oriental Region, Part 8. New Species and Additional Record of the Genus *Hydrocyphon* (Coleoptera, Scirtidae). Ent. Rev. Japan, **60**, 2: 153-206.